



# ATCP 50 – Implementing the Silurian Bedrock Performance Standard

Stakeholder Engagement Meeting

WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

February 24, 2022

# REVIEW OF NR 151.075



## Silurian Bedrock Performance Standards:

- 1.) Applies to all crop producers and livestock producers in the Silurian Bedrock area.
- 2.) Mechanical manure applications may not cause the fecal contamination of a well.

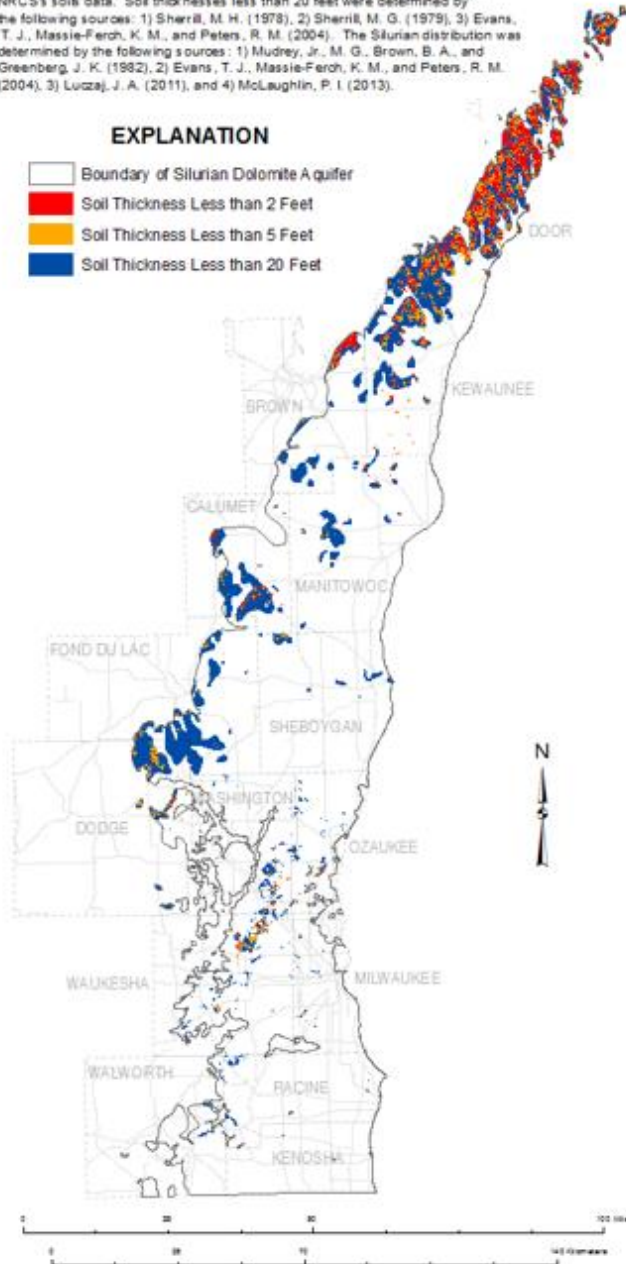


## AREAS OF LESS THAN 20 FEET UNCONSOLIDATED MATERIAL OVER SILURIAN BEDROCK

Soil thicknesses less than 2 feet and less than 5 feet were determined using NRCS's soils data. Soil thicknesses less than 20 feet were determined by the following sources: 1) Sherrill, M. H. (1978), 2) Sherrill, M. G. (1979), 3) Evans, T. J., Massie-Feroh, K. M., and Peters, R. M. (2004). The Silurian distribution was determined by the following sources: 1) Mudrey, Jr., M. G., Brown, B. A., and Greenberg, J. K. (1982), 2) Evans, T. J., Massie-Feroh, K. M., and Peters, R. M. (2004), 3) Luczak, J. A. (2011), and 4) McLaughlin, P. I. (2013).

### EXPLANATION

- Boundary of Silurian Dolomite Aquifer
- Soil Thickness Less than 2 Feet
- Soil Thickness Less than 5 Feet
- Soil Thickness Less than 20 Feet



# REVIEW OF NR 151.075

## Silurian Bedrock Performance Standards (continued):

3.) Mechanical manure applications are prohibited on 24 inches or less of soil to bedrock and apparent water table.

4.) Manure must be applied in accordance with a NMP (NR 151.07 & NRCS 590 2015)

# REVIEW OF NR 151.075



## Silurian Bedrock Performance Standards (continued):

Areas where soil is less than 5 feet to Silurian Bedrock:

- 5.) Must be identified – infield verification OR existing maps/data.
- 6.) Must be ranked for risk of pathogen delivery to groundwater.
- 7.) Mechanical application is prohibited when soils are frozen or snow covered
- 8.) Mechanical applications is prohibited when rainfall >1” is forecasted within 24 hrs.



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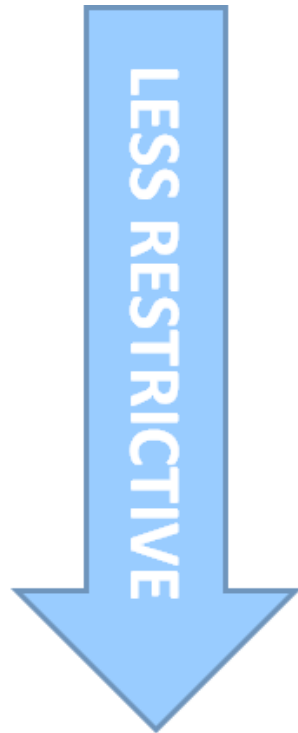
## Silurian Bedrock Performance Standards (continued):

9.) <2 feet

10.) 2-3 feet

11.) 3-5 feet

12.) 5-20 feet



2016, spring injection into cover crop



# REVIEW OF NR 151.075

Depth to bedrock	Solid manure conditions	Liquid manure conditions
<2' Verification Required <sup>2</sup>	No mechanical application	No mechanical application
2'-3' Verification Required <sup>2</sup>	Incorporate <sup>3</sup> within 72 hrs to ≤4" depth and;  At least one of the following: a) Rate ≤ 15 T/acre, b) Within 10 d planting or established crop, c) Pathogens ≤ 500,000 CFU	Pre-tillage and; Inject or incorporate <sup>4</sup> ≤4" depth within 24hr and; At least one of the following: a) Rate is lesser of UW A2809 or Table 1, b) Within 10 d planting or established crop, c) Pathogens ≤ 500,000 CFU
3'-5' Verification required <sup>2</sup>	Same as above except ≤6" depth	Pre-tillage and; Inject or incorporate <sup>4</sup> ≤6" depth within 24hr and; Same as above
5'-20' No Verification required	No new conditions proposed	Pre-tillage and; Inject or incorporate <sup>5</sup> ≤6" depth within 24hr and; Same as above



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## Silurian Bedrock Performance Standards (continued):

- 13.) Establishes horizontal setbacks for mechanical manure applications.
- 14.) Establishes restrictions when applying manure near closed depressions.
- 15.) Restrictions on fields with 6% or greater slopes and concentrated channels that drain to a closed depression.
- 16.) Manure must be land applied with minimal movement.



# WHY ATCP 50?

- DATCP is required to adopt technical standards and conservation practices
  - DATCP 01 technical standard
  - New conservation practices
  - Dispute resolution process
  - Practitioner certification/training requirements and procedures
- DATCP is required to adopt cost-sharing rules
  - SBPS has cost-sharing issues that need to be addressed
- Performance standard implementation issues – Farmland preservation, ordinances





# DATA AND MAPS

## Existing

- SNAP Maps
  - Silurian 0-2, 2-5, 5-20
  - NRCS 590 Soils
    - P, R, N-Restricted, Wet, etc.
- NEWIAEM
- Depth of Consolidated Materials (DNR)

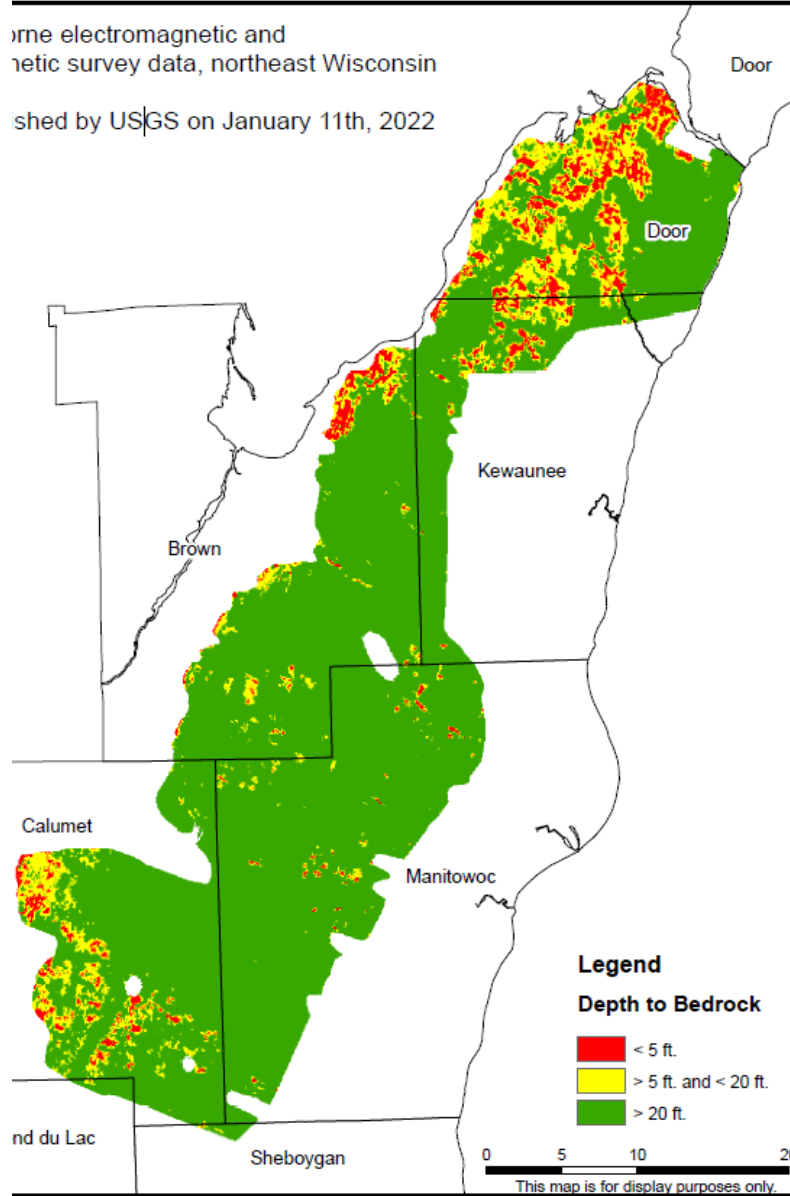
## Needs?

- What mapping needs still exist and where?
  - Ie. 2-3' and 3-5' do not exist currently.
- How good is the existing data?
- What do we do with future and updated data?

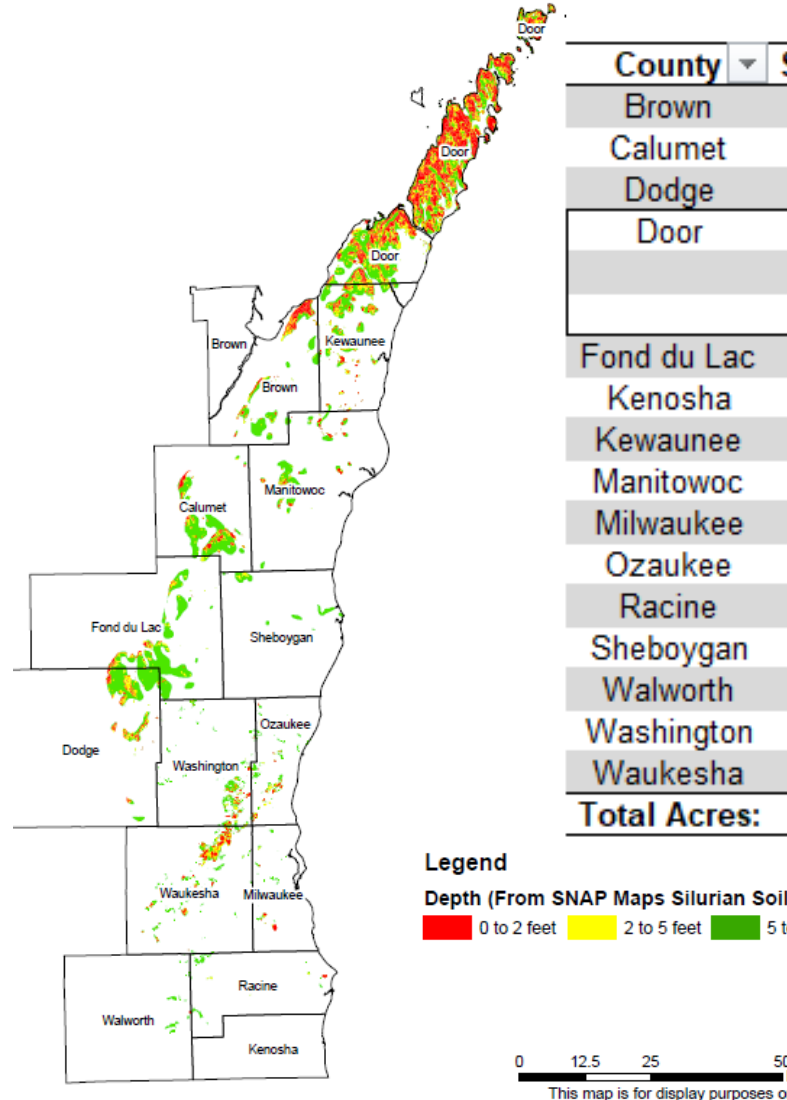


Time electromagnetic and geoelectric survey data, northeast Wisconsin

Released by USGS on January 11th, 2022



VAP Maps Silurian Soils



## IMPACT: DATA AND MAP COVERAGE

County	Silurian Cropland Acr	<20'	% of Acres
Brown	101629	14284	6.72%
Calumet	91158	25298	11.91%
Dodge	49221	25515	12.01%
Door	89628		
		>16'	21327
		<16'	68176
			32.09%
Fond du Lac	109087	29144	13.72%
Kenosha	69157	0	0.00%
Kewaunee	131730	26028	12.25%
Manitowoc	206622	13621	6.41%
Milwaukee	6798	0	0.00%
Ozaukee	53033	762	0.36%
Racine	99109	618	0.29%
Sheboygan	154721	3288	1.55%
Walworth	60875	589	0.28%
Washington	78602	3448	1.62%
Waukesha	30742	1697	0.80%
<b>Total Acres:</b>	<b>1332112</b>	<b>212468</b>	<b>100.00%</b>

Which counties have the highest percentage of <20' to bedrock?

Based on the combination of Cultivated Cropland (NLCD) and DNR Depth of Consolidated Materials Map



## SILURIAN NM PLANNING CONSIDERATIONS

Criteria	Current Rule	Silurian Rule
Bedrock 0-2'	No spreading in Feb/Mar	Complete prohibition
Wet Soils (W)	Limited to 120# N or A2809 Recs (lesser of)	No mech apps with <24" to apparent water table
Direct Conduits to GW	300' Buffer	300' upslope, 100' downslope
Bedrock 2-5'	NA	2-3, and 3-5 restrictions



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